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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/841,318 04/30/97 HATAKEYAMA

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EXAMINER

HARRINGTON, A

ART UNIT	PAPER NUMBER
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2712

DATE MAILED:

07/18/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.	08/841,318	
Examiner	Hatakeyama	
Flannigan	Group Art Unit 3712	

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

Responsive to communication(s) filed on 5-2-00.

This action is FINAL.

Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

Claim(s) 1-7 & 9 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

Claim(s) _____ is/are allowed.

Claim(s) 1-7 & 9 is/are rejected.

Claim(s) _____ is/are objected to.

Claim(s) _____ are subject to restriction or election requirement.

Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The proposed drawing correction, filed on _____ is approved disapproved.

The drawing(s) filed on _____ is/are objected to by the Examiner.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All Some* None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) _____.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

Attachment(s)

Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

Interview Summary, PTO-413

Notice of Reference(s) Cited, PTO-892

Notice of Informal Patent Application, PTO-152

Notice of Draftsperson's Patent Drawing Review, PTO-948

Other _____

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DETAILED ACTION

Applicant requested a interview with the Examiner if the Examiner disagreed with applicant statements. Mrs. Garber, art unit supervisor, left a message for applicant on July 3, 2000. The Examiner again called on July 6, 2000 in which Mr. Lattig stated he would wait for an interview after receiving our response.

1. Applicant's arguments filed on 5/2/00 have been fully considered but they are not persuasive.

The Examiner thanks the applicant for giving an overview of the invention which clearly defines a CCD with a RGB stripe filter capable of interlace output in movie mode. The Examiner however, contends the prior art of rejection of record in paper #14 is this invention.

Applicant has three major arguments:

1. Iura et al fails to discloses using a doubling factor as claimed to lengthen the exposure period.
2. The preamble was not given it's patentable weight.
3. The color filter arrangement in an interlaced method was not taught by prior art combination .

However, the Examiner respectfully disagrees and will clarify the rejection further. Iura discloses a color camera capable of motion and still modes of operation. In the motion mode, Iura discloses an interlaced signal is output. Iura also discloses manipulation of charge collection and

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exposure. As seen in figure 10, the still image mode takes at least 1.5 times as long as the movie mode(see col. 14). Since Iura system is configured to collect charge that is 1.5 to 3 time the amount in the movie mode, then clearly the system is capable of doubling the exposure.

The Examiner also addressed the color filter arrangement, as broadly defined in the preamble and claim. Iura and Sasaki both disclose color filter arrangements in their motion/ still cameras. Iura uses the complementary spectrum of colors and Sasaki uses primary colors. Each color set is notoriously well known in the art, and the Examiner takes Official Notice to that fact. The use of either filter only truly changes the output processing , especially for signals which must be converted to NTSC standard signals. The Examiner, further discloses Sugihara who teaches using a stripe primary color filter on a camera which is capable of interlace readout. Thus, it would have been clearly obvious to one of ordinary skill in the art, that a color striped primary filter is can be used on color camera with interlaced readout. It would have been further obvious that such filter arrangement is useable in the claimed interlaced readout and would provide a good quality image.

The rejection will be repeated.

Claim Rejections - 35 U.S.C. § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

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such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iura et al (US 5,847, 756) in view of Sasaki (US 4,837,628) further in view of Sugihara (US 4,054,915).

Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button : col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19). As seen in figure 10, the still image mode takes at least 1.5 times as long as the movie mode(see col. 14).Since Iura system is configured to collect charge that is 1.5 to 3 time the amount in the movie mode, then clearly the system is capable of doubling the exposure. Therefore, Iura teaches motion and still imaging for displaying images which mixed readouts charges in the motion mode and outputs all charges in the still mode (may also store still images). However, the Iura fails to specifically discloses the **claimed** color filter arrangement, interlaced “field shifting” additive readout, and outputting all pixel data in line sequential scanning.

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Although, a motion and still mode color camera which records still images and implement an art equivalent to line sequential scanning is well known in the art as taught by Sasaki.

In the same field of endeavor, Sasaki discloses upon a shutter release operation the still is recorded (see abstract and col. 6, lines 50- 55) where Sasaki also reads out all the pixel signal in the still image mode also by driving an interline transfer CCD to output each pixel in the array.. This driving is equivalent to sequential scanning of each line. Thus it would have been obvious to one of ordinary skill in the art that at the time the invention was made to modify Iura, as taught by Sasaki, such that a motion/still mode camera can store selected still image from the motion sequence for user selective/creative use at anytime. Additionally, Iura and Sasaki teach providing a high quality still image by using all the image data in the array but output the all the data using different driving method, and it would appear to be obvious to any one of ordinary skill in the art that either field readouts or line sequential scanning of all pixel charges would produce a quality still image, and the inclusion of either method is matter of design choice.

Iura and Sasaki, as stated above, disclose color imaging systems. However, neither teach using a stripe color filter arrangement and interlaced claimed field shifting method. Although, it is well known in the art to include these features as taught by Sugihara.

Sugihara discloses a color camera which incorporates a column stripe color filter (see figure 3). Sugihara also discloses several interlace method used in color camera. One method comprises averaging signals of two adjacent lines of the same color during an even field (col. 9, lines 1-14) . Another method comprises an two line additive readout which uses the same pair of

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lines each field (col. 10, lines 49-67). And an interlace method, where different lines are added in each field (col. 11, lines 15-65) which is the claimed method. Thus, it would have been obvious to one of ordinary skill in the art to modify, Iura and Sasaki to use a stripe color filter, as taught by Sugihara, as such processing of color signals from column stripe filters is available to color cameras and provide a good resolution image. It would have been further, obvious to implement the claimed interlace method taught by Sugihara, int the systems of Iura and Sasaki, as it does not require any significant upgrade to processing circuitry that could increase the cost of the system and is an improved interlaced color method, as taught by Sugihara. Further, it would have been obvious to use the interlace method claimed on a column striped CCD, as the Examiner takes official Notice that interlace scanned CCD with color stripe filters exist in the art. Also same color additive interlacing is known in the art (and also taught by Sugihara) which can also be done in remapping signal processors or other signal processors. Therefore, it would also not require a significant upgrade in the color signal processing circuitry and requires on routine skill in the art to implement a color imaging system incorporating a stripe filter to output a picture with good resolution.

As for claim 2, see Examiners notes in claim 1.

As for claim 3, see Examiner notes in claim 2. Addition, Iura range is from 1.5 to 3 times the exposure (see cited columns in claim 1).

As for claim 4, Iura disclose changing the exposure in an embodiment. Iura also teaches that when image data level is to be changed, the gain of an amplifier and/or the exposure time is

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adjusted(col. 3, lines 10-15). Thus it would have been obvious to one of ordinary skill in the art , that instead of doubling the exposure time, the gain of the amplifier for the color signals could be double to increase the signal.

As for claim 5, see Examiner notes in claim 1. In addition, Iura discloses an embodiment were the motion image charge storage time is inherently updated because the CCD has an electronic shutter component (col. 15, lines 15-45 and col. 17, lines 1-15).

As for claim 6, see Examiner's notes in claim 5. In addition, Iura gives an example in col. 15, the exposure time of the still is three times as long. However, the exposure range is 1.5 to three times as long which means it could be twice as long.

4. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iura (US 5,847,756).

As for claim 7, Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button : col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19) which can allows the luminance and balance of recorded still data to be set in

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the same range. The implementation of the exposure time is done by cooperation of the microcomputer which stores various data and electronic shutter control circuit. The microcomputer sends shutter control signals to the electronic shutter control circuit. Although not specifically disclosed by Iura, it would have been matter of common sense, that a storage time calculated/determined(col. 20, lines 1-16) by the last electronic shutter signal and sent by way of control signal to the shutter control circuit to the CCD is held/stored/memorized (i.e. in a memory) by the microcomputer.

As for claim 9, Iura discloses a color video camera (see figures 2 and 3) with motion and still modes of operation with electronic display of motion and still pictures (depression of a shutter button; col. 12, lines 1-18) where a motion picture is interlaced two line additive scanned image data and a still picture also represent a form a interlace scanning where each field output of all even lines and all the odd line forms the still image data (one frame; col. 9, lines 1-51). Iura also discloses the still image data level is dependent upon the motion image data in the preceding motion image period by setting the exposure period for the still image data to be from 1.5 to 3 time as long as the motion image exposure period (col. 4, lines 42-62 and col. 5, lines 5-15 and col. 14, lines 7-19) which can allows the luminance and balance of recorded still data to be set in the same range. . Although, Iura disclose changing the exposure in an embodiment. Iura also teaches that when image data level is to be changed, the gain of an amplifier and/or the exposure time is adjusted(col. 3, lines 10-15). Thus it would have been obvious to one of ordinary skill in

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the art , that instead of doubling the exposure time, the gain of the amplifier for the color signals could be double to increase the signal.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia Harrington whose telephone number is (703) 308-9295. The examiner can normally be reached on Monday to Friday from 9:30 am to 6:00 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Wendy Garber, can be reached on (703) 305-4929.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 308-6306, (for formal communications intended for entry)

Or:

(703) 308-6296 (for informal or draft communication, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

AMH:*AMY*

July 7, 2000

Tuan Ho
TUAN HO
PRIMARY EXAMINER